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ABERRANT VEIL REMNANTS IN SOME EDIBLE AGARICS.

BY WILLIAM TRELEASE.

In 1884, when describing the North American representative of the European *Lepiota naucinus*, under the name *L. naucinoides*, Professor Peck mentioned the fact that the collar sometimes breaks loose from its attachment to the stem and becomes a movable ring upon it as in *L. procera*, or occasionally in old specimens becomes torn and disappears entirely,— statements that are repeated in several later accounts of the fungus.

A great abundance of this species in manured shrubbery borders, lawns, etc., of the Missouri Botanical Garden in the early autumn of 1902, has given opportunity to somewhat modify this account, and the accompanying photograms present the characters sufficiently well to require little explanatory test.

In the development of the button, in this species, the veil, which at first is rather thick, is drawn out to thinness toward both the stem and the margin of the pileus, so that in the larger number of specimens it tears away from the latter, leaving, however, a thin marginal edge, and remains as a rather large collar loosely attached to the stem. In less typical but still rather frequent cases the attachment to the pileus is firm enough in places so that the ring breaks apart at one or more points and the entire remains of the veil are carried out as easily detachable flecks or shreds on the margin of the cap. Occasional other specimens present veil characters intermediate between these two. It is not my experience that a ring, once formed, is likely to disappear in the ordinary aging of the plant after its development from the button. — Plates 30-34.

As this *Lepiota* is largely eaten, and prized by some

people as a delicacy, it has seemed to me worth while to call attention to these various forms of veil remains since aberrant specimens are properly open to suspicion as really pertaining to this species unless its variability is understood. It may not be amiss to say that in gathering it for the table the greatest care should be taken to avoid confusing with it the death-cup, *Amanita phalloides*, which is of similar coloring but may be known with certainty by its larger ruff-like collar and the presence of a loose bag or volva at base of the stem. Though hardly a table collector's character, it may be noted further that the gills of the *Amanita* remain white as the specimens age or when heated, while in the smooth *Lepiota* they turn to a light brown as the plants grow stale or when they are cooked.

Another comparable aberration is sometimes observed on the frequently cultivated large macaroon-flavored mushroom, *Agaricus amygdalinus*, which normally has a caducous large hanging ruff-like collar on the stem, but frequently has the veil entirely torn away from the latter, in which case its remnants are likely ultimately to break away from the pileus as well. — Plates 35, 36.

The delicate little *Hypholoma appendiculatum*, which is frequently found in lawns, is typically characterized by having the veil attached to the margin of the pileus in irregular broken shreds (Plate 37); but in American specimens these are so frequently lacking (Plate 38) as to have led to its renaming in this country as *H. incertum* Peck. Here, too, the behavior of the veil is so variable as to call for a recognition of its several forms, among which is sometimes to be found a delicate broken ring hanging from the stem (Plate 39).

EXPLANATION OF PLATES.

From photographs by the author at St. Louis, Mo.

Plates 30, 31. — *Lepiota naucinus*, natural size. Typical specimens with conspicuous attached ring and remnants of the veil on the margin of the pileus.

Plate 32. — *Lepiota naucinus*, natural size. Specimens of both the convex and explanate forms, without ring, — the veil adhering in shreds to the margin of the pileus.

Plate 33. — *Lepiota naucinus*, natural size. Expanding specimens, on one of which a ring is forming while on the other the veil is adhering in shreds to the margin of the pileus.

Plate 34. — *Lepiota naucinus*, natural size. Expanding buttons. In one a detached ring is forming; in another the veil is adhering to the margin of the pileus; and in the third it is in the form of a torn, partly uncoiled ring, loosely attached to the stem and with one end adhering to the margin of the pileus.

Plate 35. — *Agaricus amygdalinus*, $\times \frac{1}{2}$. Aberrant specimen, with the veil breaking away from the stem instead of forming a large hanging ring as it typically does.

Plate 36. — *Agaricus amygdalinus*, reduced. Various veil remnants.

Plate 37. — *Hypholoma appendiculatum*, natural size. Typical specimen, with the veil attached in shreds to the margin of the pileus.

Plate 38. — *Hypholoma appendiculatum*, natural size. The more frequent American form, with the veil almost entirely gone from both stem and pileus.

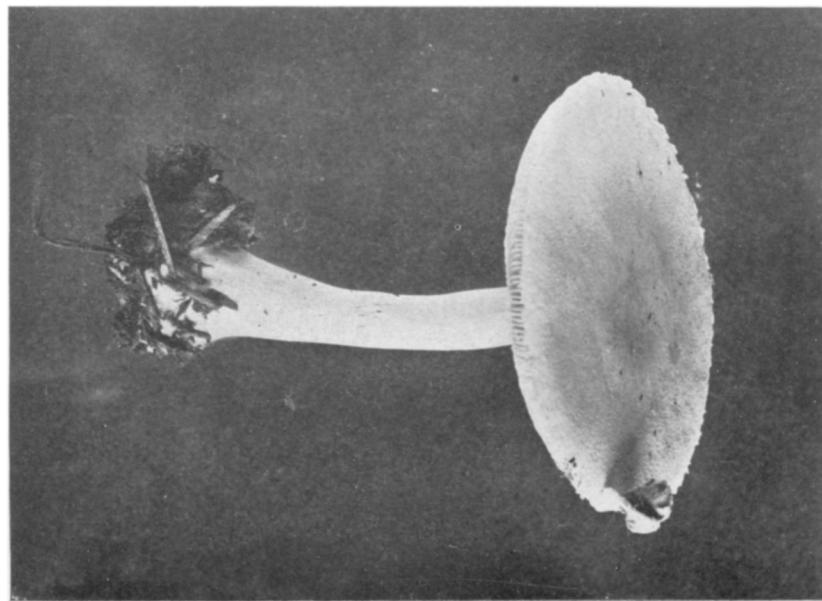
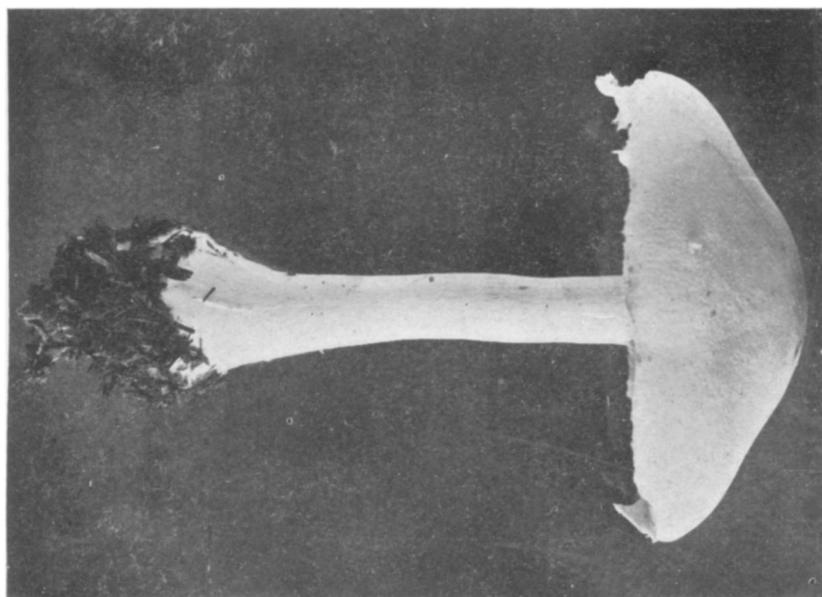
Plate 39. — *Hypholoma appendiculatum*, natural size. Aberrant specimen with most of the veil remaining loosely attached to the stem in the form of an interrupted collar.



LEPIOTA NAUCINUS.



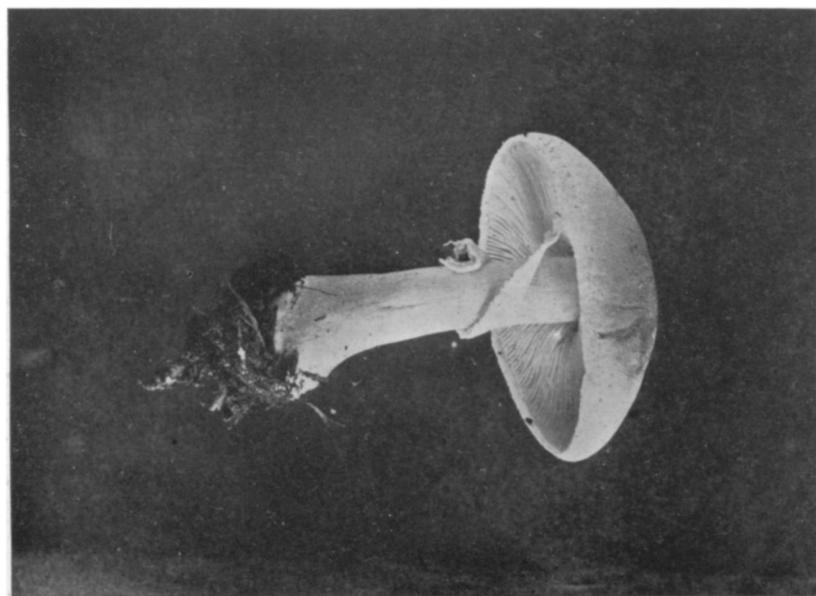
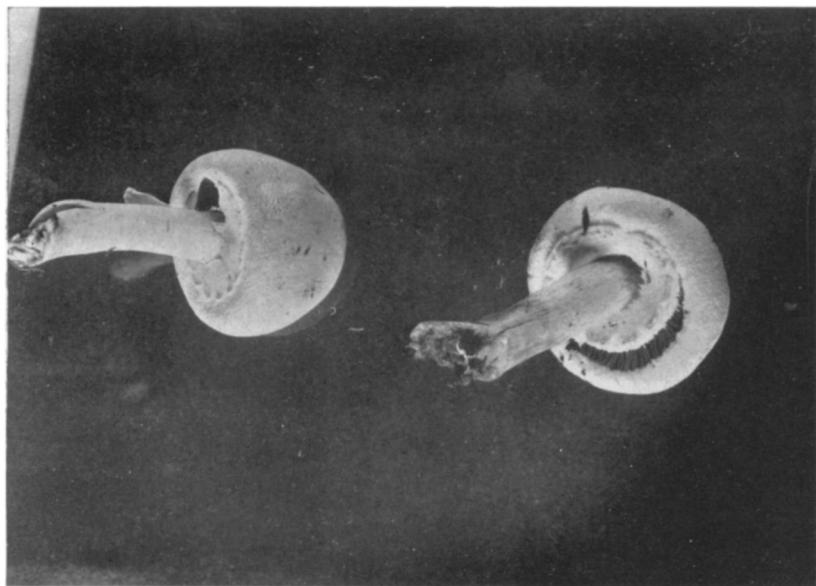
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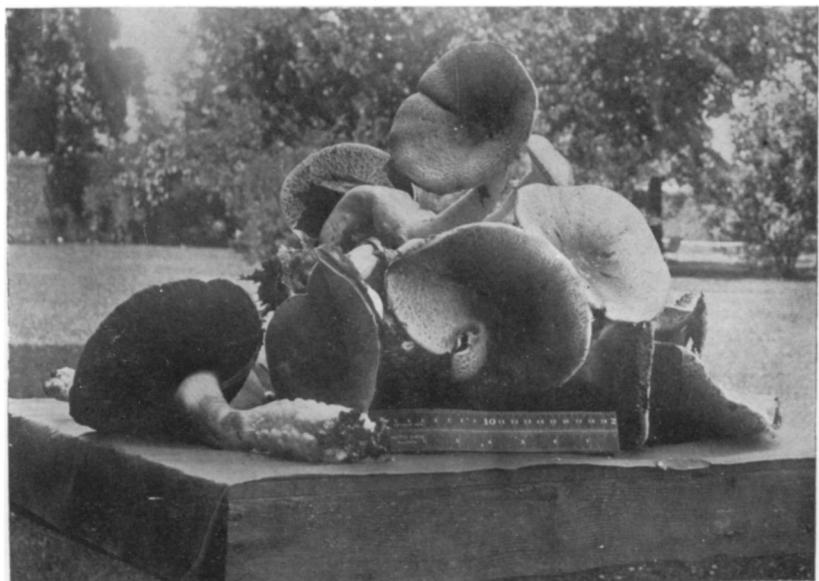
LEPIOTA NAUCINUS.



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AGARICUS AMYGDALINUS.



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HYPHOLOMA APPENDICULATUM.



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